

ADDITIONAL ABSTRACTS
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**Mass Rearing of *Porthetria dispar* (L.) (Lepidoptera:
Lymantriidae) for In-host Production of Nuclear Polyhedrosis Virus**

R. P. SMITH, S. P. WRAIGHT, M. F. TARDIFF, M. J. HASENSTAB AND
J. B. SIMEONE

DEPARTMENT OF ENTOMOLOGY, STATE UNIV. COLLEGE OF ENVIRONMENTAL SCIENCE
AND FORESTRY, SYRACUSE, NEW YORK 13210.

Production of large quantities of gypsy moth virus requires rearing, infecting and recovering virus from the insect host. A method of larval rearing and viral recovery evolved at the SUNY College of Environmental Science and Forestry for supplying large numbers of polyhedral inclusion bodies (PIB's) under U.S. Forest Service Contract #42-00-131. Field-collected eggs, held at 1°C and 60% RH were dehaired by vacuum, surface sterilized in 0.1% NaOCl for 30 minutes, rinsed, dried, placed in 20-mesh nylon packets, and incubated at room temperature. Larvae, placed in groups of 12 in 454 gr. waxed cups, were fed a modified ODell and Rollinson (1966) diet (Bio-Serv Inc.). A 2-cm² cube sufficed until late third instar when larvae were fed virus-infected diet containing 3×10^6 PIB/ml. After 48 hrs, the cups were punched to regulate humidity, and larvae were fed virus-free diet until harvested. Cadavers were removed by vacuum and blended. The resulting suspension was filtered to remove debris and then refrigerated.

After 1 week this mixture separated into a sediment from which PIB's were obtained through continuous flow centrifugation and a supernatant from which PIB's were obtained through continuous flow centrifugation, both at 9,000 rpms. Resuspended PIB's were counted on a haemocytometer.

In one year, using the man-hour equivalents of four full-time workers, 400,000 larvae were harvested at a cost of 8¢ per larva and a yield of 3.5×10^{14} PIB's.

**Population Structure and the Sampling of Insects for
Laboratory Colonization**

IAN C. McDONALD

Each species possesses a basic set of characteristics that distinguishes it from other species. However, data from genetic research have indicated the unique-

ness of each individual in most sexually reproducing organisms. Also, data from studies of populations have provided evidence that (1) no two local populations of a species are identical, and (2) local populations can vary in time. The differences within and among populations are thought to result from genetic adjustments that lead to the production of a phenotype adapted to the local environment. The idea that the types and levels of variation can be related to environmental patterns suggests the need to conduct field research on native populations of insects being considered as candidates for biological and/or genetic control programs. Data from field studies would be invaluable for establishing sampling methods to obtain representative colonies of given species. In the absence of field work, sampling procedures must continue to be haphazard, and the only recommendations possible are as follows:

1. When using members of a species against their native counterparts, it is probably best to establish colonies using as many insects as it is economically feasible to collect from the area where future releases will be made.
2. When introducing an insect into a new area it is probably best to establish colonies using as many individuals as it is economically feasible to collect from an area very similar to the future release site.

Whenever possible, sampling for any colonization program should take into account the activity periods of the insect.

BOOK REVIEW

Mites of Moths and Butterflies. Asher E. Treat. Cornell University Press, Ithaca, N. Y. 362 pp., 150 figs. \$35.00. 1975.

This authoritative book is a thorough and definitive treatment of mites associated with moths and butterflies. The author, Professor Emeritus at City University and Research Associate at the American Museum of Natural History, describes all forms of parasitic, stowaway, and transient mites. The introductory chapters describe the early history, as well as the techniques employed in the study of mites. The systematics and biology, occurrence, distribution, and behavior are expertly presented and cross indexed. The excellent illustrations throughout the text increase the value of this classical study. Biological information on all mites associated with Lepidoptera has been summarized. Two keys, to living mites seen at 20–40 \times magnification, and to mounted specimens requiring 400–100 \times magnification, comprise Appendix A. Host species are listed in Appendix B. Extensive literature citations, a geographic index, and a general index complete the volume. The book is intended for amateur and professional lepidopterists, but it will be of interest to general entomologists as well. It provides the only comprehensive treatment of mite parasites and scavengers found on butterflies and moths worldwide.

KARL MARAMOROSCH
Institute of Microbiology, Rutgers University